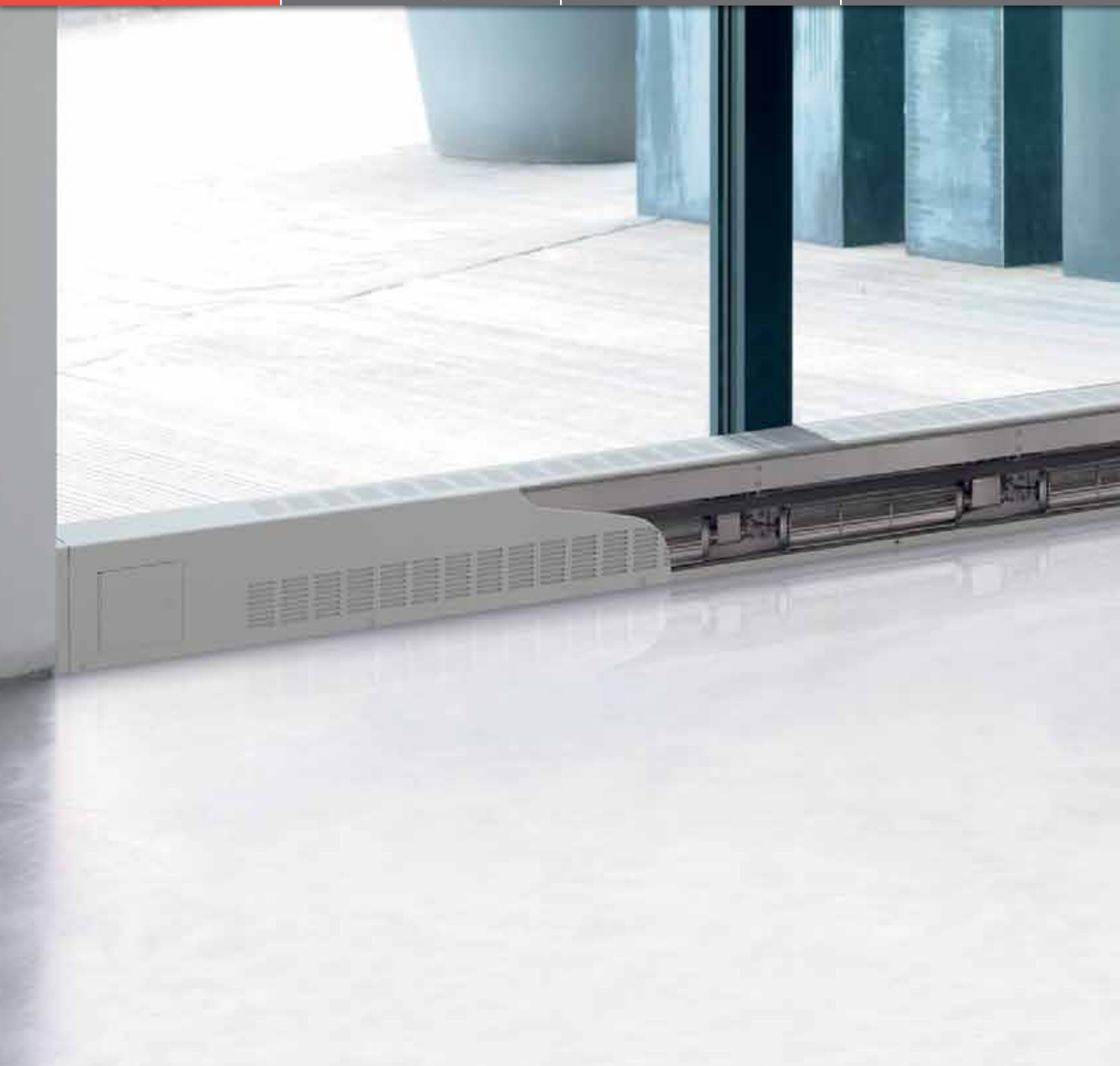
Rittling
Fanvector

Installation, Operation and Maintenance

Heating | Cooling | Fresh Air | Clean Air



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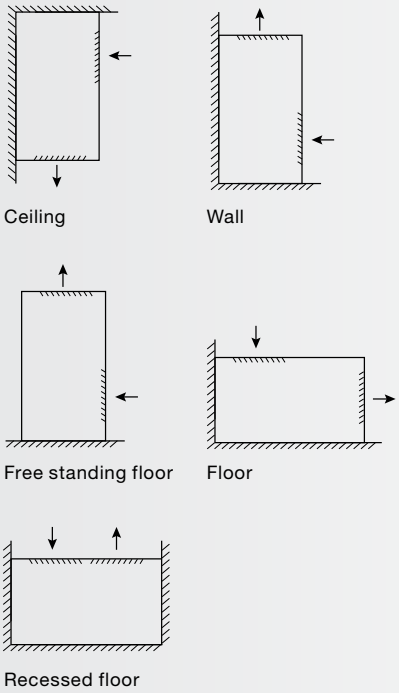
IMPORTANT: Submittal documentation, specific to each project, supersedes the general guidelines contained within this manual.

Arrangements

Unlike natural convective products, the Rittling Fanvector has an increased air capacity due to the addition of a tangential blower that pushes a higher volume of air across the heat transfer surface. The benefit of this technology is that less linear footage of heating products is required.

The variety of mounting styles and the slim line design provide flexibility to the installing contractor as well as options for an aesthetically pleasing solution for the architect.

Arrangements



General data

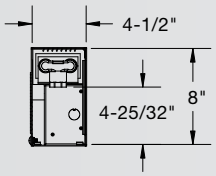
Table 1: General data

Size	FV-04	FV-06	FV-08
General			
Heating capacity (BTUH)*	8,900	13,900	19,600
Flow rate (GPM)*	0.9	1.4	2.0
Operating pressure (psi)	300	300	300
Electrical			
Supply voltage	120V/60Hz/1 Ph	120V/60Hz/1 Ph	120V/60Hz/1 Ph
Number of motor/blowers	2	3	4
Fan motor type	Shaded pole	Shaded pole	Shaded pole
Motor HP (per motor)	1/100	1/100	1/100
Motor FLA (A per motor)	0.9	0.9	0.9
Minimum circuit ampacity (A)	2.3	3.4	4.5
Maximum fuse size (A)	15	15	15
Blower			
Blower wheel size (D x W) (in.)	(2) - 2.6" x 11.8" Tangential	(3) - 2.6" x 11.8" Tangential	(4) - 2.6" x 11.8" Tangential
Air flow (CFM)	160	260	330
RPM	0-1,500	0-1,500	0-1,500
Cabinet			
Depth (in.)	4-1/2	4-1/2	4-1/2
Height (in.)	8	8	8
Width (in.)	47-15/16	71-15/16	89-7/16
Weight (lbs.)	22	44	66
Recessed floor			
Model	FV-04-T	FV-06-T	FV-08-T
Depth (in.)	12-1/8	12-1/8	12-1/8
Height (in.)	6	6	6
Width (in.)	46	64	82
Weight (lbs.)	20	40	60

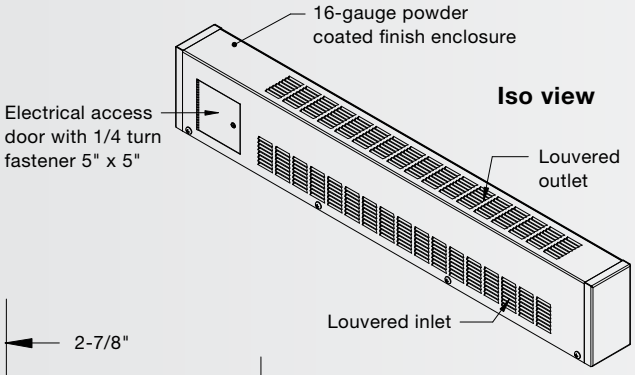
* 65 °F EAT, 200 °F EWT, 180 °F LWT, cabinet enclosure, same end connection

Dimensions and data

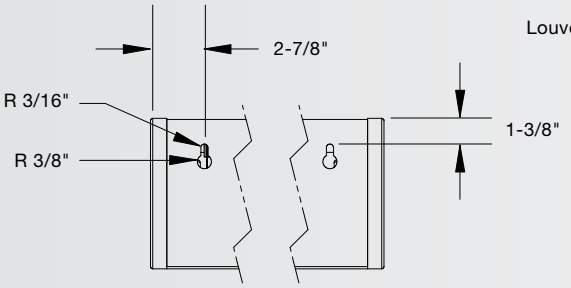
Model FV-04



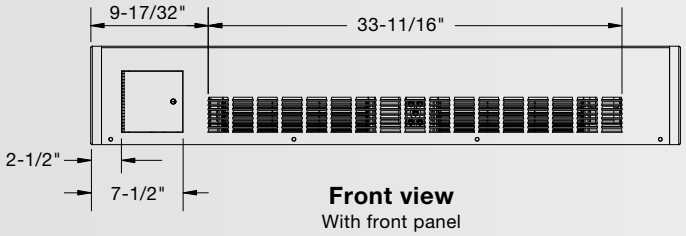
Side view
Less end panel



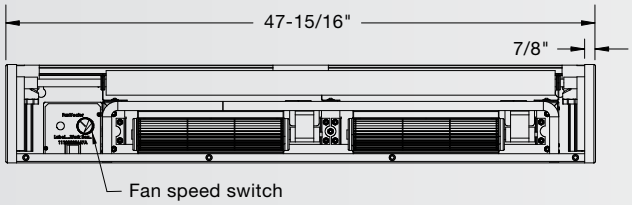
Iso view



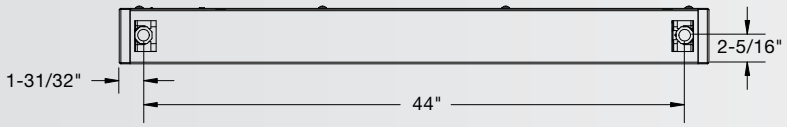
Back view
Mounting location



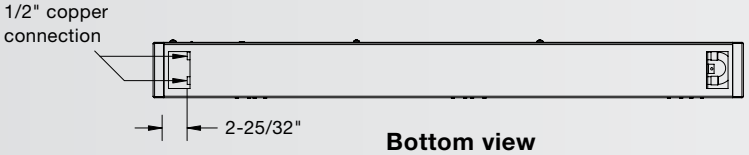
Front view
With front panel



Front view
Less front panel



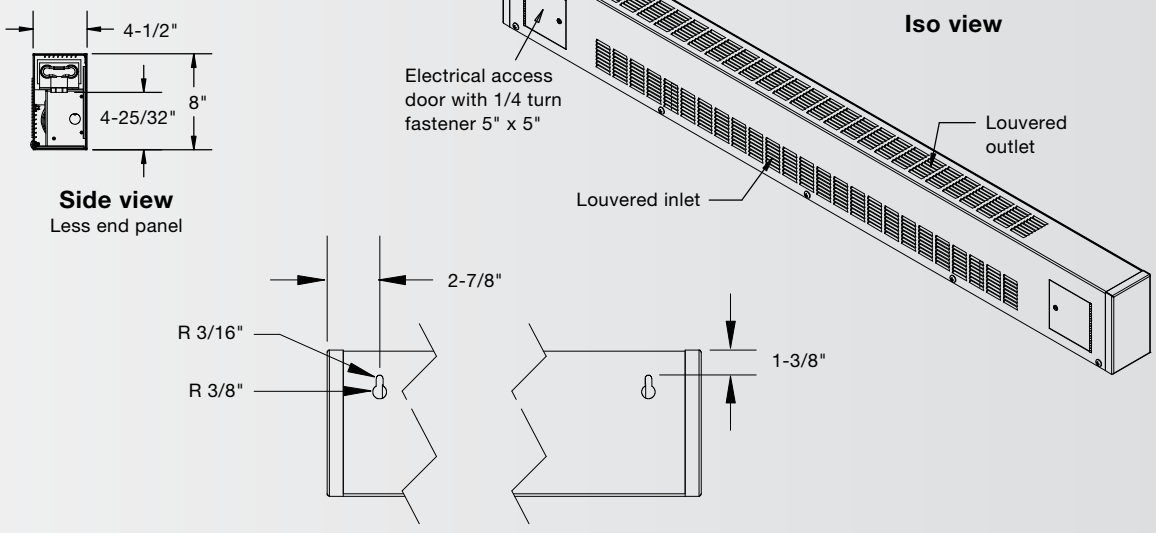
Bottom view

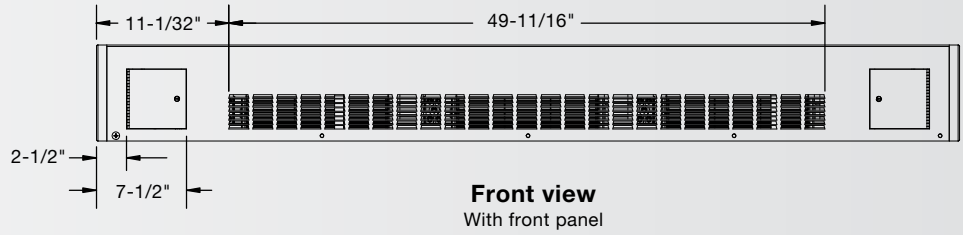


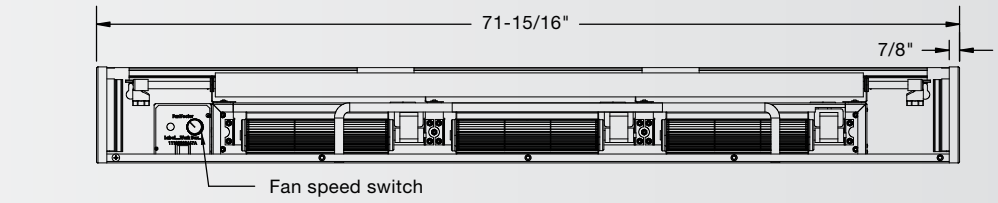
Bottom view
Alternate view, same end connection

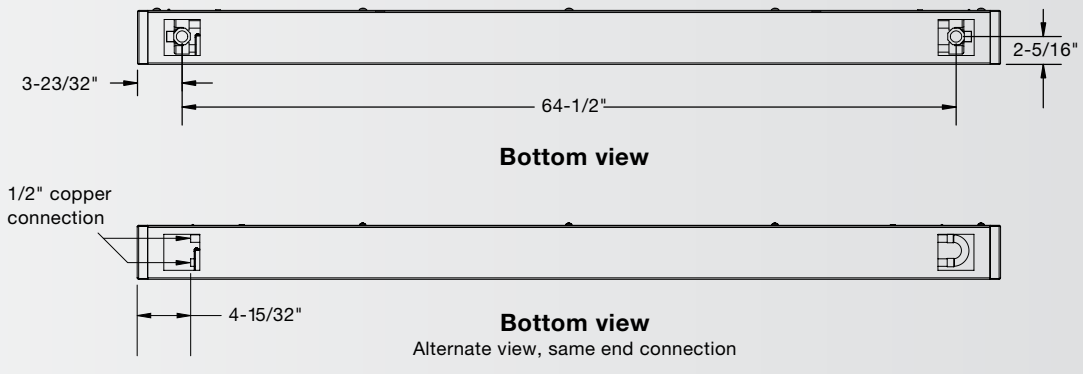
Dimensions and data

Model FV-06



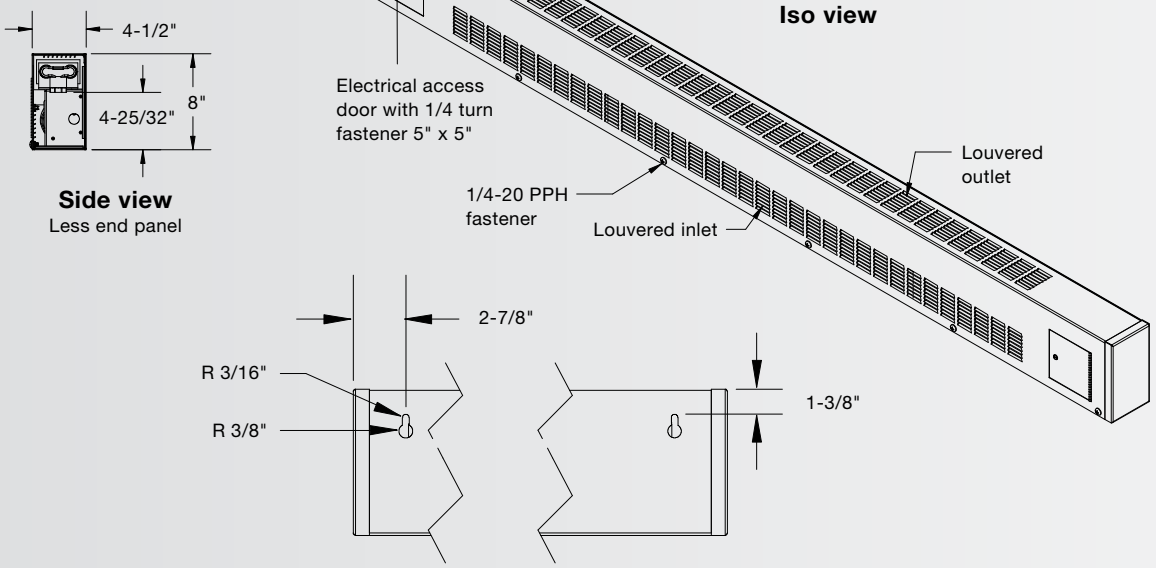






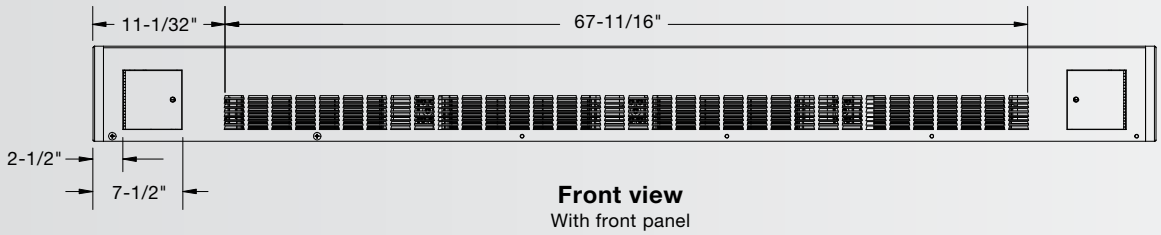
Dimensions and data

Model FV-08

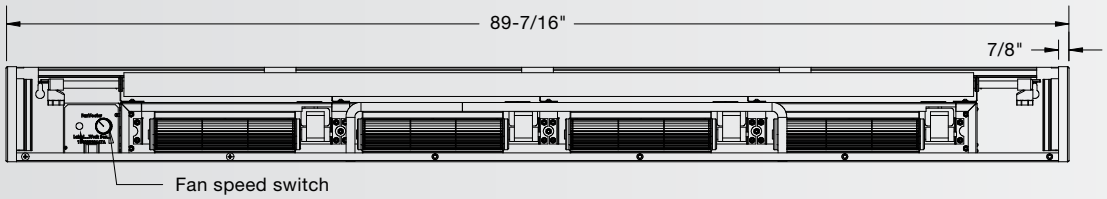


Side view
Less end panel

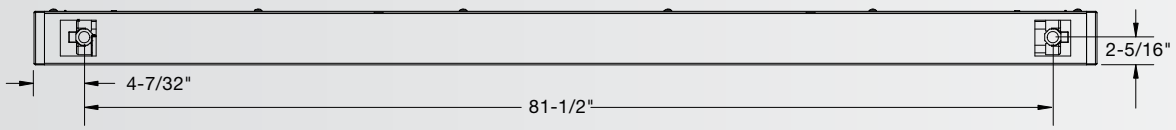
Back view
Mounting location



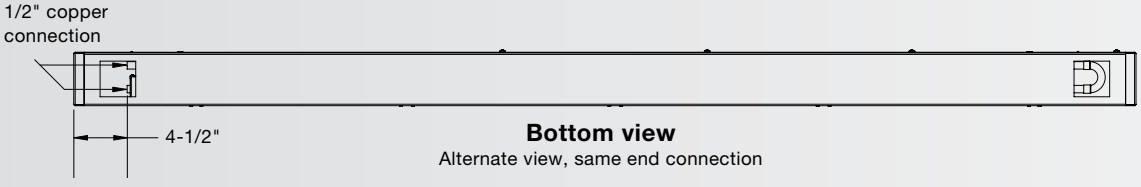
Front view
With front panel



Front view
Less front panel

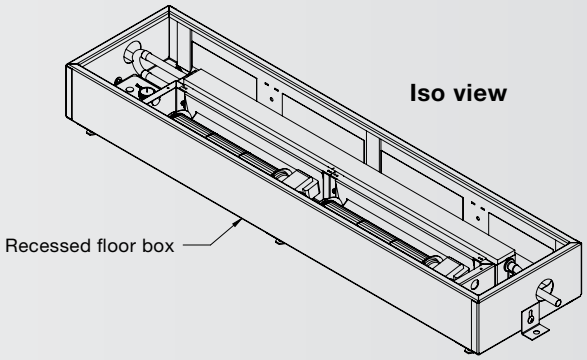


Bottom view

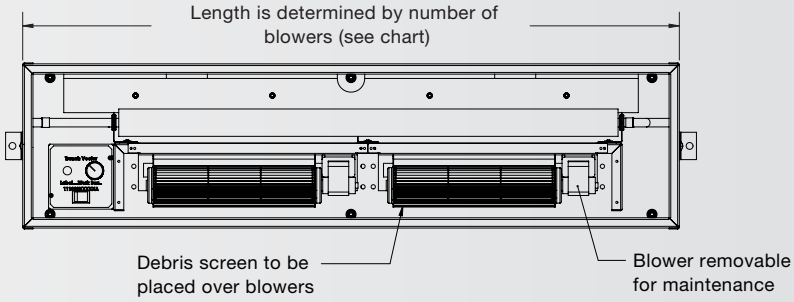


Bottom view
Alternate view, same end connection

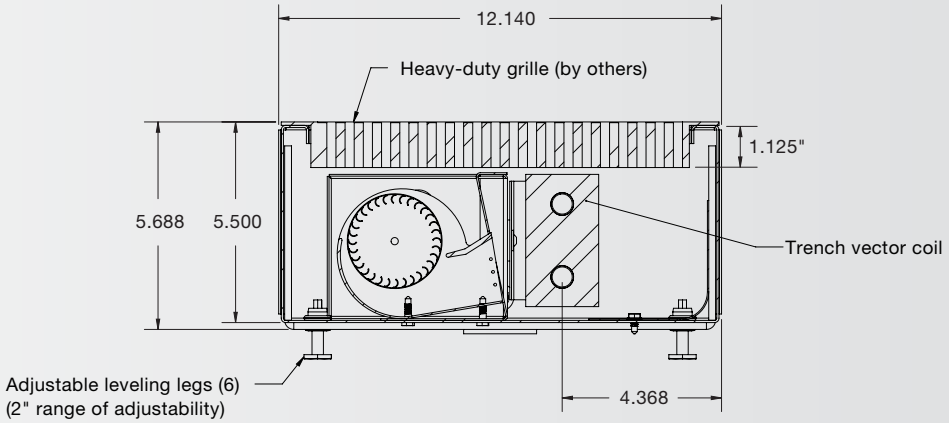
Model	Recessed floor box length	# of blowers
FV-04-T	46"	2
FV-06-T	64"	3
FV-08-T	82"	4



Iso view


Length is determined by number of blowers (see chart)
Debris screen to be placed over blowers
Blower removable for maintenance

Top view
(Shown less grille)



Sectional view

Notes:
- Left hand electrical control shown. Right hand electrical control is a mirror image.
- The grille should have a minimum of 60% free surface area to maintain catalog airflow and capacity.

Installation

Inspection

Upon receipt of the equipment, carefully check the shipment against the bill of lading. Make sure all units have been received. Inspect the packaging of each unit, and inspect each unit for damage. Ensure that the carrier makes proper notation of any shortages or damage on all copies of the freight bill and completes a common carrier inspection report. Concealed damage not discovered during unloading must be reported to the carrier within 15 days of receipt of shipment. If not filed within 15 days, the freight company can deny the claim without recourse.

Storage

Equipment should be stored in its original packaging in a clean, dry area.

Unit protection

Cover units on the job site with either the original packaging or an equivalent protective covering. Cap the open ends of pipes stored on the job site. In areas where painting, plastering, and/or spraying has not been completed, all due precautions must be taken to avoid physical damage to the units and contamination by foreign material. Physical damage and contamination may prevent proper start-up and may result in costly equipment clean-up.

Examine all pipes, fittings, and valves before installing any of the system components. Remove any dirt or debris found in or on these components.

Pre-installation

Before unit start-up, read all manuals and become familiar with the unit and its operation. Thoroughly check the system before operation.

NOTICE

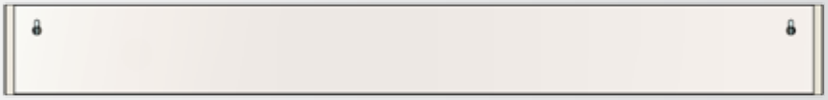
It is the responsibility of the purchaser to file all necessary claims with the carrier. Notify your equipment supplier of all damage within fifteen (15) days of shipment.

Installation

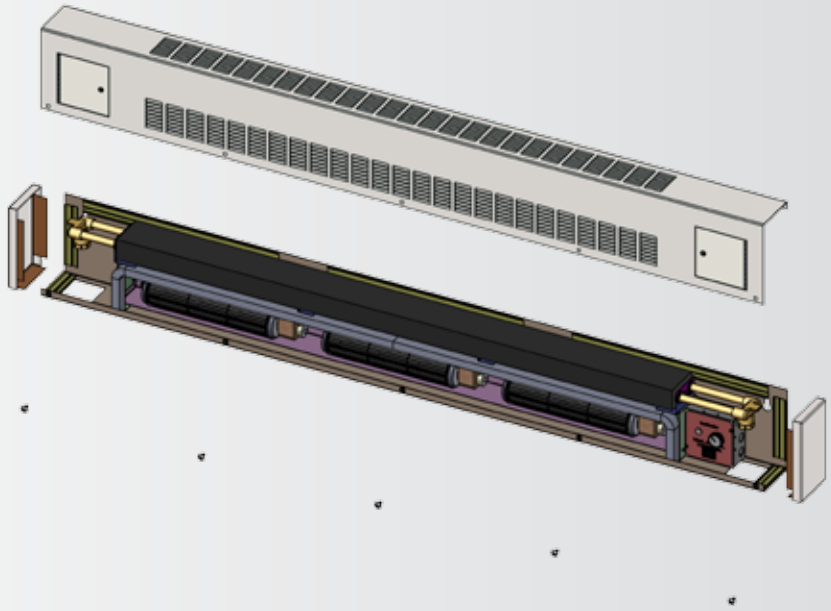
Preparation

- Verify that electrical power is disconnected prior to installation and service.
- Ensure that field plumbing and electrical meets applicable national and local codes and requirements.
- The Rittling Fanvector cabinet has keyhole slots included in the back panel for use in mounting. Proper wall supports and screws to support the Rittling Fanvector weight should be used when mounting. The table below shows model weights for each unit size.

Model	Weight (lbs.)
FV-04	22
FV-06	44
FV-08	66



- Access to the keyhole slots may require removal of the end panels and the front cabinet panel. Check if keyhole slots are accessible through access doors or end panels, and that access is not obstructed by field barriers.
  - The end caps are attached by a tongue and groove joint and are removed by simply pulling them away from the ends of the unit.
  - The front panel is disassembled by removing the screws in the front panel and lifting the panel vertically.
- Prior to fastening the Rittling Fanvector in place, verify that all wiring and plumbing is accessible to complete the installation.
- Securely fasten unit into place.



Installation

Plumbing

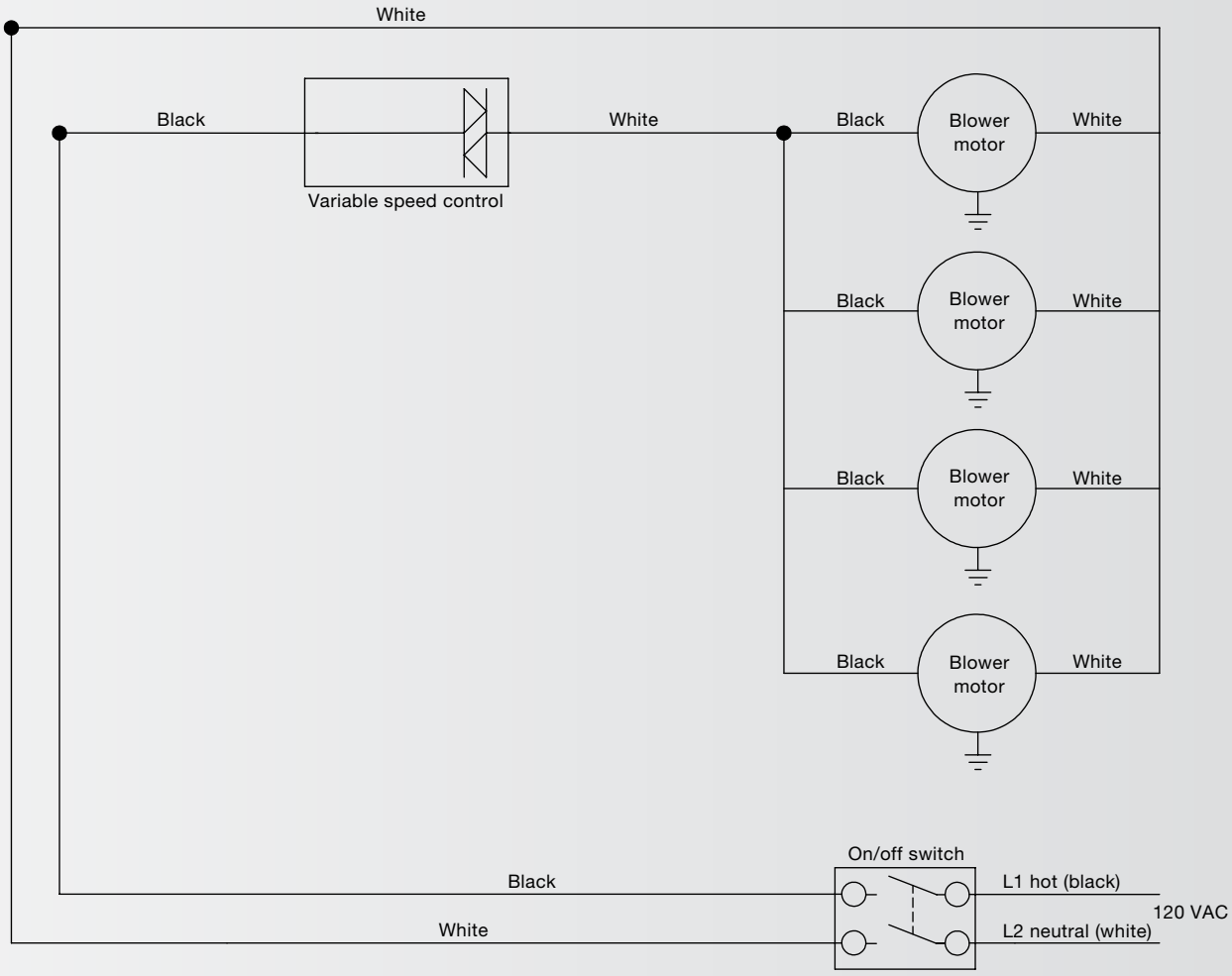
- The Rittling Fanvector is supplied with either opposite end, same end or recessed floor connections.
  - Opposite end connections have brass headers with a 3/4" FPT connection. The headers have a 1/4" FPT hole that can be plugged or fitted with a vent (by others).
  - Same end connections are supplied with 1/2" straight copper tubing. Standard 1/2" female copper fittings (sweat) can be used for connection purposes (by others).
  - Recessed floor connections are 3/4" straight copper. Standard 1/2" female copper fittings (sweat) can be used for connection purposes (by others).
- Plumbing access openings are cut into the unit cabinet. Openings can be used as necessary and determined by field plumbing.
- Connect inlet and outlet plumbing per building specifications.
- All connections should be leak tested prior to electrical connection and operation.

Electrical

- Remove electrical box connection cover to expose unit wiring.
- Connect power and thermostat (if used) to unit per the wiring diagram on page 9.
- Replace electrical box connection cover.

If applicable, front panel and end panels should be re-installed at this time if they were removed for installation purposes.

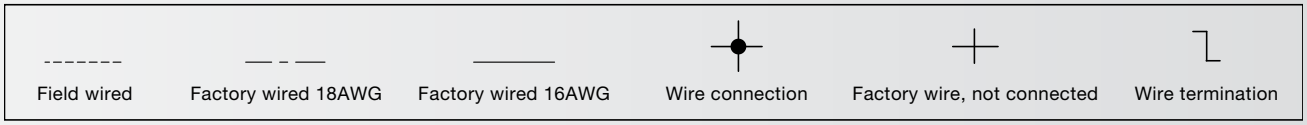
Wiring diagram



Size	# of Blowers
FV-04	2
FV-06	3
FV-08	4

Notes:

- Thermostat shipped loose if wall mounted
- Control valve and changeover switch are shipped loose
- Complete the wiring in accordance with national and local codes
- If remote temperature sensor is used, wire to thermostat tb1, terminals 1 and 2.



Operation

Initial start-up

- Verify that all isolation valves are open and control valves (if any) are wired.
- Verify that all air has been removed from the hot water system and there is no air trapped in the coil.
- Verify that voltage is within an acceptable range and that fuses and breakers are properly sized.
- If unit is controlled by a thermostat, verify that the control system is calling for heat.
- Verify that the unit switch is in “off” position.
- Turn on line power to unit. Move unit switch to “on” position.
- Adjust blower speed to maximum setting.
- Verify that blowers are moving air through the discharge louvers (top) of the unit.
- Adjust blower speed to minimum setting.
- Verify that blowers are moving air through the discharge louvers (top) of the unit.
- If unit is controlled by a thermostat, verify that the control system is working by adjusting temperature setting to turn system on and off.

Continued operation

- Set unit switch to “on” position.
- If unit is controlled by thermostat, set thermostat to desired control temperature.
- Set fan control to desired speed.
- Maintain unit according to the instructions listed in the maintenance section of this document.

Maintenance

Motor blower assembly

- The blower motor assembly is assembled with long-life, maintenance-free bearings. There is no need for lubrication of the assembly.
- Periodic cleaning of the fan and motor can be accomplished best with a vacuum with a soft brush attachment. Cleaning intervals will be dependent on operating environment, but is recommended at lease once a year.
- Verify that the power is disconnected prior to cleaning.

Coil

- Internal coil maintenance is generally not needed for water systems that are clean and maintained. If it is known that the water system contains high levels of dirt or debris, use standard coil cleaning tools and procedures compatible with copper water lines.
- Periodic cleaning of the coil fins can be accomplished best with a vacuum with a soft brush attachment. Cleaning intervals will be dependent on operating environment, but is recommended at lease once a year.
- Verify that the power is disconnected prior to cleaning.

Cabinet

- Clean with a mild soap and warm water as necessary.

Service parts

Description	FV-04	FV-06	FV-08
Same end connection coil	11723000005A	11723000006A	11723000007A
Opposite end connection coil	11723000016A	11723000017A	11723000018A
Motor/blower assembly (1 pc.)	11723000019A		
Fan speed/power switch assembly	11723000020A		

Warranty

Zehnder Rittling guarantees its products to be free from defects in material and workmanship for a period of two years from date of shipment from our factory.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder Rittlng. Upon receipt of written consent from Zehnder Rittling, the purchaser shall return the defective good(s) to the factory for inspection with freight prepaid. If inspection shows the goods to be defective, Zehnder Rittling will at its discretion repair or replace the said item(s).

Defects arising from damage due to shipment, improper installation, negligence or misuse by others are not covered by this warranty.

This warranty is extended only to the original purchaser from Zehnder Rittling.

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